

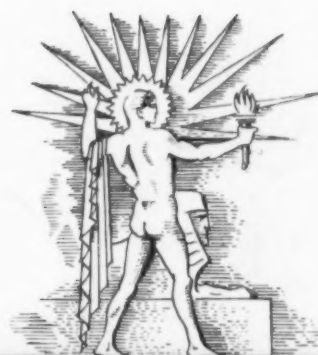
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SCIENCE NEWS LETTER

THE WEEKLY SUMMARY OF CURRENT SCIENCE •



October 15, 1938

Portrait Pipe

See Page 243

A SCIENCE SERVICE PUBLICATION

Do You Know?

In buying a kitchen tool, test not only sharpness but also the weight of the tool and ease in holding it.

When Philadelphia held its centennial exhibition in 1876, bananas were so novel they were sold in tinfoil, at ten cents apiece.

The automobile dollar is a silver coin circulating in the Chinese interior; it is decorated with the picture of a sedan of American design.

A village of 1500 B. C., when native Britons were shifting from the Stone Age to bronze tools, has been unearthed in the Orkney Islands.

Keepers in Japanese zoos are being trained to recapture wild animals quickly by lasso and net—just in case an air raid should release wild beasts.

A 26-square-mile lake was created in southern California when floods caused the Mojave River to overflow last spring, and the lake may last two years.

Puerto Rico has a new Columbus Park, on the northwest coast of the island where Columbus is believed to have stopped for water supplies in 1493.

Describing the Chinese paint brush as an amazingly pliant tool, an Oriental art specialist says that the Chinese brush can produce a far greater variety of strokes than the ordinary Western paint brush.

QUESTIONS DISCUSSED IN THIS ISSUE

Most articles which appear in SCIENCE NEWS LETTER are based on communications to Science Service, or on papers before meetings. Where published sources are used they are referred to in the article.

AERONAUTICS

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What indicates to scientists that ancient Oklahoma Indians had communication with the South? p. 243.

ENGINEERING

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What international body is planning an inquiry into the social effects of science? p. 248.

MEDICINE

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PSYCHOLOGY

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How young can a baby begin to learn? p. 248.

What effect does marriage have on romantic love? p. 253.

PUBLIC HEALTH

What are the requirements for keeping a house warm? p. 249.

What are the symptoms of tick paralysis? p. 249.

SOCIOLOGY

How does the life of large cities contribute to the rise of dictators? p. 250.

London had a red and green traffic signal as far back as 1868.

Woolen uniforms in Germany are required to contain a certain amount of woodpulp fiber.

Government scientists report that precooling California oranges before they are shipped East will save consumers and producers about a million dollars a year.

Hebrew is one of the official languages of Palestine.

A four-person bed for the sick is among the historic exhibits in the French hospital museum at Lyons.

Eating grasshoppers killed by arsenic poison is not likely to kill livestock, judging by experiments: a horse or cow would have to eat over a million poisoned hoppers to get a fatal dose.

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ARCHAEOLOGY

Maya-Like Relics Have Been Found in Oklahoma Mounds

Archaeologists Puzzle Over Shells, Flints, Pipes That Show Far-Flung Trade Among Ancient Indians

See Front Cover

DID THE Mayas, most civilized Indians this continent ever knew, have missionaries or traders or other traveling envoys who carried their culture to the "barbarians" of what is now the United States?

Or did the Indians of our great central valley region independently evolve culture patterns strongly suggestive of Southern Mexican cultures?

These questions are raised anew by astonishing discoveries made in excavating Indian mounds and village sites in Oklahoma. Weapons, utensils and ornaments found in the ruins and with the skeletons of long-buried chiefs suggest that here a culture resembling that of the famous Hopewell mounds in Ohio met with and was influenced by Maya culture patterns working up from the south.

Scientists are going to have a nice time working over this newest of American archaeological puzzles. The digging work and the preliminary examinations have just been finished. Detailed labor is to follow.

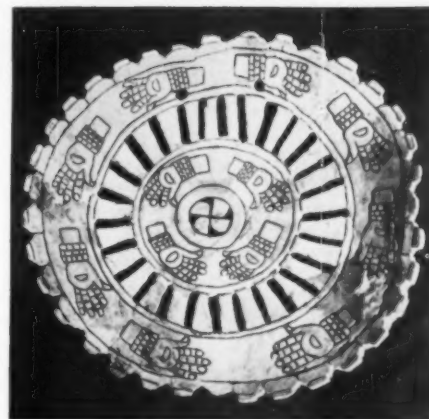
The digs were carried out as a joint enterprise of the Works Progress Administration, the University of Oklahoma, and the University of Tulsa, under the direction of Dr. Forrest E. Clem-

ents. The universities furnished the scientific brains and WPA provided the necessary pick-and-shovel brawn.

Scientific exploration of the ancient dwelling and burial sites came just in the nick of time, too. Commercial pot-hunters, seeking specimens to sell, had ripped into some of the most interesting of the mounds, and their vandalism had already ruined priceless records of America's prehistoric past. They were interested only in what they could market, and what they could not sell they thoughtlessly destroyed.

What information was left, however, has now been put into permanent record by the archaeologists, and the specimens are in public museums, where the people at large can see and admire, and where scholars can read as best they are able the story of the past.

One thing will doubtless surprise many who think of Indians, especially Western Indians, as always dwellers in skin tents or tipis, ready at any time to fold them up and steal away, like so many Occidental Arabs. These long-gone Oklahoma aborigines lived not in tents but in houses—really solidly constructed dwellings consisting of rows of posts set firmly in the ground, with roof-poles slanting up to center posts near the middle of the houses, and with clay hearths for the common fires.



LIKE MEXICAN ART

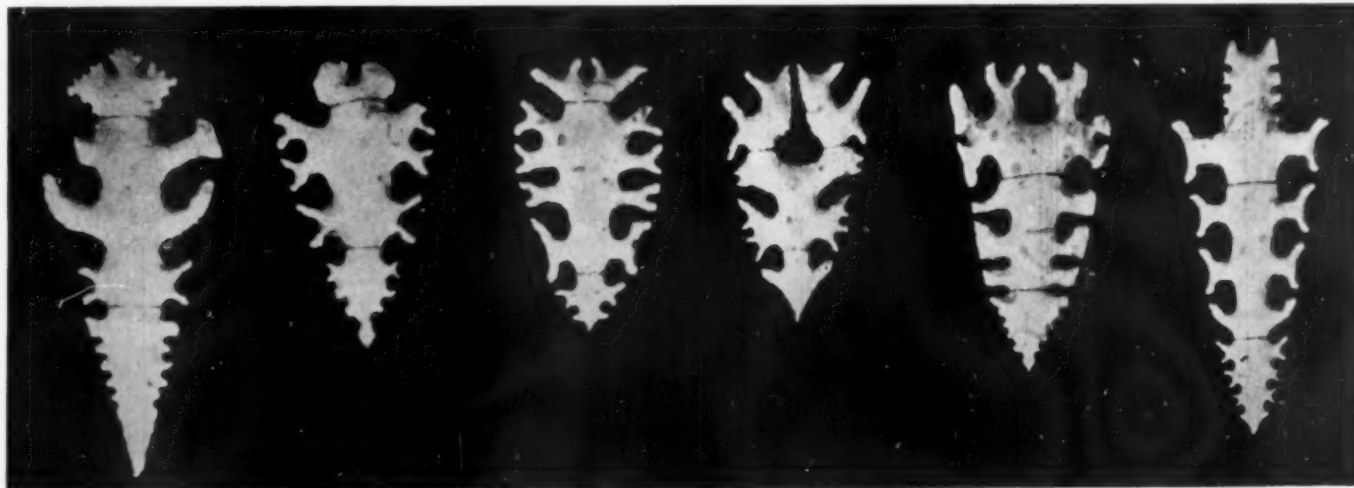
The hand pictures engraved on this shell gorget, or throat ornament, from the Spiro Mound are strikingly Maya-like.

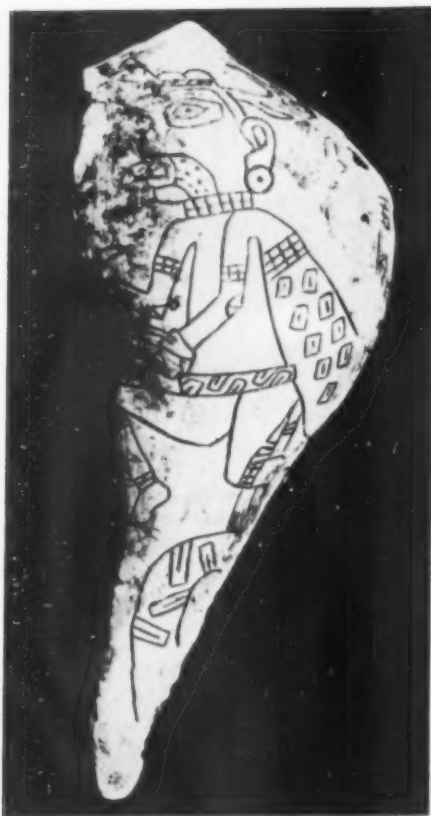
These houses or lodges, the excavations show, were large—from 20 to 35 feet square. Usually the outline was rectangular, but some were circular. It is probable that they were communal dwellings, occupied by several families. Dug into the earth floor were pits, where corn and other supplies were cached.

But it was in the dwellings of the dead, under the monumental mounds, that the diggers found the richest records of the lives of these vanished Indians. There is no paradox about this. For the Indian, the next world was simply a continuation of this one, so his sorrowing relatives placed with him in

"ECCENTRIC FLINTS"

These were found by hundreds in a cache, their tips all pointed in the same direction. They seem to have been votive offerings, for no possible utilitarian purpose can be imagined for them.





FROM THE GULF OF MEXICO

This conch shell which the ancient Oklahoma Indian artists engraved with the figure of a dancing priest had traveled far.

the tomb the best equipment they were able to provide, for his future hunting and household needs.

The biggest mound included in the Oklahoma project was one on the Arkansas bottoms in Le Flore County. It is known as the Spiro Mound, or more pretentiously, as the Great Temple Mound of Oklahoma. It is really a compound structure, consisting of four connected mounds. In it the excavators found about 2,000 skeletons, and they estimate that several hundred more had been thrown away in fragments by pot-hunters who had previously partially vandalized the site.

This Spiro mound was not only the biggest, but it also yielded relics showing the most advanced civilization, and the most evidences for possible contact with the Maya culture.

The list of characteristic objects reads almost like a catalog of the Hopewell type artifacts from the famous mounds of far-away Ohio. It certainly shows that the builders of Spiro mound, like those of the Hopewell mounds, had trade contacts nearly as wide as the continent.

There is, for example, a great deal of copper, which most probably came from the Lake Superior region. This is worked up into ornaments, ax heads, richly wrought breast plates, sheathings over cedarwood ceremonial masks, spool-shaped ear-plugs resembling those found in Ohio.

There are also shells, including large conch shells, that could have come only from the Gulf of Mexico. Some of these are inscribed with patterns that look decidedly like those of Maya art, depicting men paddling a canoe, priests conducting a religious ceremony, etc. Shell was also used as inlay material in the wooden ceremonial masks.

Serpent Designs

Maya-like patterns appear again in the pottery, which these Indians made well and in great quantity. One shallow bowl, especially, has a design of extended hands that look astonishingly like those on the sculptures of the Central American temples and monuments. Serpent designs, characteristic of both Maya and Hopewell cultures, appear in the Spiro pictures.

The Spiro mound builders knew the art of weaving. Fragments of mats made of reeds and rushes were found, and even more striking in their workmanship, cloths made of buffalo hair, rabbit fur, and the fibers of milkweed and linden bark. One sepulchre buried under the mound, apparently the last residence of a great chief or high priest, consisted of a crib of cedar logs, hung within with patterned and dyed cloth of buffalo hair and rabbit wool. For its day and place, it was a veritable redskin Tut-ankh-Amen tomb.

Much of the burial furniture in the mounds was apparently made specially for funeral or votive purposes. The arrow heads frequently showed no signs of having been used at all. Many of the objects, also, were quite evidently intended for ceremonial use only: for example, one great flaked blade of chert, 28 inches long.

Among votive objects, perhaps the most puzzling, certainly the most disputed, are the so-called "eccentric flints." Most of these came from a single great cache, discovered some years ago by a halfbreed Indian named Mack Tussinger, who made a very good thing, financially, out of selling them.

The "eccentric flints" are very skillfully flaked pieces with the general outline of arrow or dart points. But they could never have had any such practical use, or indeed any use at all, for their edges are incised and lobed in the most

intricate rococo shapes imaginable. They are almost snowflakes in stone. Similar patterns have been found in Central American flints, but nowhere else.

It has never been possible to authenticate these curious artifacts completely. Nevertheless, the report concludes, "they should not be casually dismissed as either fakes or freaks."

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AERONAUTICS

Treasure Island Site To Become Great Air Base

PARALLELING the development of the North Beach Airport at New York as a great combined land and sea air terminal, Treasure Island, in San Francisco Bay, site of the Golden Gate International Exposition of 1939, will probably become a terminal for domestic landlines as well as for Pan-American Airways' transpacific division, following the close of the World's Fair of the West.

Airline operators look with favorable interest upon the proposal to develop the man-made fair site into an airport because it will mean a single stop in the San Francisco Bay area in place of the two now made on most flights.

Domestic planes today stop both at Oakland, in the East Bay area, and at Mills Field, San Francisco. Cutting out one of the stops will mean 10 or 15 minutes less flying time.

In addition, the island is within a very few minutes of downtown San Francisco via the Bay Bridge. Mills Field is three-quarters of an hour from the Golden Gate city's hotel district.

The San Francisco Bay Bridge, which crosses the bay near one end of Treasure Island, is not a hazard in clear weather, in the operators' opinion, because of the fact that the prevailing wind parallels the bridge.

At times when instrument landings (which should be standard bad weather practice by the time the airport is ready) are required, the Oakland Airport will be used. This should be necessary at most 15 per cent. of the time, one airline official estimated.

Approval of such a move is, of course, up to the Civil Aeronautics Authority which, when the time comes, will have to pass upon the suitability of the port as a site. Unanimous support for the change is not expected, for sponsors of today's airports rarely welcome a change in location.

Pan-American Airways has already made arrangements to use Treasure

Island in place of its Alameda base from the time the fair opens. The twice-a-week clipper departures to New Zealand and the Philippines, a schedule expected to be in operation by that time, will provide the most prominent part of the Pan-American Airways exhibit.

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PSYCHOLOGY

Dogs Show Wide Differences In Problem-Solving Abilities

DOGS DISPLAY marked individual differences in "I.Q.," no less than their two-legged lords and masters, Dr. E. G. Sarris of the Institute for Environmental Research in Hamburg, Germany, has found. Tested by their abilities to solve problems connected with the getting of a coveted piece of meat, their mental abilities ranged all the way from very bright to plain, doggone dumb.

Dr. Sarris started with eight dogs of assorted sexes, breeds, and ages. At first he gave them an easy problem, of getting the meat when they were separated from it by a serpentine fence constituting a simple maze. All the dogs could solve that one, though some of them made hard work of it while the cleverer individuals went through it very quickly.

Then he increased the difficulties, imposing such brain-puzzlers as getting the meat out from under a can loaded on top with bricks, hauling it over a wall on the end of a string, moving small carts and boxes that would enable them to reach it when it was hung too high for direct approach, etc.

At each step-up in difficulty, some of the animals found the problem too hard and gave it up. Finally, Dr. Sarris was working with his two brightest dogs, a male named Argos and a female named Niki. They could think their way through all the problems he posed them. Of course, Dr. Sarris was careful to devise situations in terms of dog mentality, rather than of human minds.

The Hamburg zoologist believes that practical uses of some importance can be derived from his study. His results, he holds, cast considerable doubt on the universally accepted idea that certain breeds of dog are best for particular working purposes, like herding or hunting. Of far greater importance, he believes, is a dog-by-dog examination for individual differences in learning capacity, based on individual variations in temperament and intelligence.

The climbing fern can climb about three feet.

PHARMACY

Medicine-Making, Research Now March Side By Side

Dedication of Two New Laboratories for Squibb and Abbott Gives Promise of New Aid in Fight on Disease

A NEW trend in the world of drugs, destined to aid man's search for health is signalized by the dedication, within a few days of each other, of new medical research laboratories of two large drug manufacturing firms.

On Oct. 7 the Abbott Laboratories celebrated their fiftieth anniversary by opening a new research laboratory building at North Chicago, Ill. On Oct. 11, E. R. Squibb and Son dedicated the new laboratory building of the Squibb Institute for Medical Research at New Brunswick, N. J.

Medicine-makers such as these are no longer confining themselves solely to the manufacture of drugs. In addition they are undertaking important programs of research on medical matters. Large groups of scientists—doctors, physiologists, chemists and bacteriologists as well as pharmacologists—are delving into problems of disease, seeking causes as well as possible cures. Even on the strictly medicine-making side, the idea is not just to make a new remedy, but to find better and better medicines and even, perhaps, to find ways of preventing illness.

Asks for Freedom

GIVE the scientists on your staff freedom to solve the riddles of science, regardless of possible practical applications, and provide for cooperation between practising physicians and laboratory investigators.

This sums up the advice given by leading scientists, including two Nobel Prize winners, to the new Squibb Institute for Medical Research.

Such advice is likely to be followed, it appears from the statement of Dr. John F. Anderson, vice-president of E. R. Squibb and Sons, the pharmaceutical manufacturing firm which has founded the Institute.

"Problems for investigation," he said, "will be chosen by those working in the Institute because of their working in the tific interest, just as is the practice in universities or other institutions of re-

search. Squibb has realized that it is such unimpeded research which has given to the world a large part of the fundamental discoveries which have so favorably affected modern life."

Every day, in thousands of hospitals the world over, blood is examined for anemia or for malaria germs or for many other conditions by methods developed by the German scientist, Paul Ehrlich. Ehrlich, however, did not sit down at his laboratory bench and decide to find a stain or dye that would show anemic blood cells clearly under the microscope. As Dr. Abraham Flexner, director of the Institute of Higher Studies of Princeton University, recalled at the dedication, Ehrlich's highly practical contributions resulted because at medical school he was allowed to "fool around" with dyes and microscopes, just to satisfy his own curiosity.

When and if the results of research in pure science have practical possibilities, the laboratory scientists must turn to clinical investigators, the physicians who do their research at the bedside.

"For the cure and prevention of disease and the relief of pain the final test is on man himself," Dr. George R. Minot, professor of medicine, Harvard University, and discoverer of the liver cure for pernicious anemia, said. A clinical investigative unit needs to be a part of or associated with an institute for medical research. "I am delighted to learn that clinical facilities with a small ward for the observation of patients in connection with various problems being studied by the research staff are being planned."

Dr. Minot's studies of anemia, for which he shared a Nobel Prize award, resulted from such a combination of clinical or bedside and laboratory research.

Dr. Russell M. Wilder of the Mayo Foundation cited the Thorndike Memorial Laboratory of the Boston City Hospital, of which Dr. Minot is director, and the Rockefeller Hospital in New York as desirable examples of institutions where such combined research can be carried on with life-saving results.

Cooperation of science and industry, which goes back to Louis Pasteur's saving of the French silk industry in 1865-1871 and includes the founding by industrial organizations of many scientific research laboratories, enters "the highest level" so far attained with the opening of the Squibb Institute for Medical Research, another Nobel Prize winner, Prof. August Krogh of the University of Copenhagen, declared. Prof. Krogh described a number of European research institutions supported by industrial concerns.

Future of Medicine Bright

THE importance of commercial research laboratories in making results of medical discoveries available throughout the nation was stressed by Dr. Morris Fishbein, editor of the *Journal of the American Medical Association*, at the dedication ceremonies of the Abbott Laboratories' new research building.

Dr. Fishbein also predicted a bright future for medicine in spite of wars, depressions, "new social experimentation," and the efforts of "the new forces that would seize the leadership" now held by the medical profession in the conflict with disease.

Engineers Are Captains

IF YOU want your son to be a captain of industry, send him to an engineering college.

An engineering college graduate is 30 times more likely to be an officer in American industry than is a graduate of a non-technical college and 44 times more likely than is a non-college man. These statistics were quoted by Dr. Karl T. Compton, president of Massachusetts Institute of Technology.

The supply of suitably trained young men to be officers of industry in the future is likely to run out, however, unless industry can cooperate with the colleges in keeping some of the abler older men at their posts on the faculties of colleges. Plans for such cooperation already in effect in some colleges were described by Dr. Compton. Sometimes an industry helps by special grants to enable a teacher to remain at his collegiate post without too great financial sacrifice. Sometimes the industry helps by providing for vacation time employment of students or, even better, by providing for a year at apprentice training. The industry benefits by this arrangement as well as the student.

People's Fight For Life

A "PEOPLE's fight for life" is beginning all over the world, Surgeon General Thomas Parran of the U. S. Public Health Service declared.

"The world movement toward beauty of form and expression seems to have leveled out," he said. "The world movement for freedom is alive only in isolated nations. But I believe that today we see the first faint stirrings of a world movement for health—a people's fight for life, for freedom from disease, for an equal opportunity to be born well and to live well."

Science has shown the way to this fight and scientists must continue to lead it, Dr. Parran said. He called for more research—"persistent, continuous, relentless"—to advance the fight against disease and cautioned against any inclination to rest on past glory in the record of diseases already conquered. The search must be not only for new knowledge but for ways of applying this knowledge to the needs of the people.

Providing Quality Drugs

THE IMPORTANCE of the analyst in pharmaceutical research is due to the part he plays in developing standards for drugs, Dr. George Denton Beal pointed out. Dr. Beal is assistant director of the Mellon Institute of Industrial Research and member of the committee of revision of the U. S. Pharmacopoeia, which sets the official standard for drugs in this country.

The steps in making a medicine were outlined by Dr. Beal as follows:

The research chemist evolves a new compound. The pharmacologist discovers its effects on the body. The physician ascertains its worth in treatment of sickness. The pharmacist devises the best method of giving it.

"But it remains for the analyst," Dr. Beal said, "to develop the tests which establish its identity, the absence of objectionable foreign materials, and the strength of the product, as well as to determine its concentration in medicinal preparations."

Science News Letter, October 15, 1938

Speaking of a boy's appetite, Cornell University home economists say that a growing boy who goes in for sports may safely take in over 4,000 calories in his food a day, which is probably twice as much as his mother needs, and even a good deal more than his father eats.



NEW RESEARCH HOME

Here important investigations will be conducted into the effects of medicine on health and disease. This is the new research building of the Abbott Laboratories.

MEDICINE

Sulfanilamide Used For Fourth Venereal Disease

SULFANILAMIDE, new and widely used chemical remedy for a number of serious ailments, speeds recovery from lymphogranuloma inguinale, sometimes called the fourth venereal disease. The usefulness of the chemical in this serious but little talked-of condition was found by two U. S. Army doctors.

Sulfanilamide treatment of this disease was initiated at Fort Benning, Ga., by Colonel Guy L. Qualls, Medical Corps, U. S. Army, in the belief that the chemical would prove as effective for lymphogranuloma inguinale in humans as it had in the treatment of choriomeningitis in mice, both being virus-caused diseases.

Encouraging results of this treatment were reported before the clinical staff at the station hospital there by Lieutenant Gladen R. Hamilton, Medical Corps, U. S. Army.

The first two cases which had been under ordinary methods of treatment in the hospital for 51 and 49 days respectively were returned to duty within a few days. To date 35 cases have been treated there. The duration of the disease and the disability therefrom has been reduced from months to days. A detailed report will be made to the medical profession in a forthcoming issue of *The Military Surgeon*.

Science News Letter, October 15, 1938

EUGENICS

Man's Control Over Life Is Prime Science Contact

Both Births and Deaths Are More Subject to Human Decisions and Man-Made Environment Than Ever Before

IT CAN be argued that the only truly direct effect science has had upon man is the application of medical and health knowledge that has lengthened his life span and reduced the birth rate.

Autos, radios, and all the impacts of physical science upon man's environment? Merely indirect and secondary, although admittedly important.

An intellectually exciting idea put forth by Frederick Osborn, population authority, in some of his thinking on eugenics is this:

"Both births and deaths are more subject to human decisions and to a man-made environment than ever in the past. Man is given a new responsibility he did not expect and which he is as yet wholly unprepared to discharge."

The objectives of the newer eugenics are not particularly radical and are not centered upon sterilization or such techniques. They are concerned with making the best of what we have through education. This applies to determining who shall be born into the world as well as what happens to them later.

Most emphatically eugenics today does

not desire to make a selection between social, economic, or racial groups.

In the last few years science has amply proved, in Mr. Osborn's opinion, that whether or not there are differences between such groups with respect to the average capacities of the individuals which compose the group, such differences in average capacity are relatively small. On the other hand, the differences between individuals in the same group are known to be very large.

Eugenics thus demands a selection between individuals. It asks simply for a gradual increase in births among those individuals who are above the average of their group in socially valuable qualities. It wants a gradual decrease in births among those below the average of their group in socially valuable qualities. On the average, it is found that those parents who provide the best home training for their children are also those with the best genetic stock.

This is a rather happy philosophy for planning mankind's future.

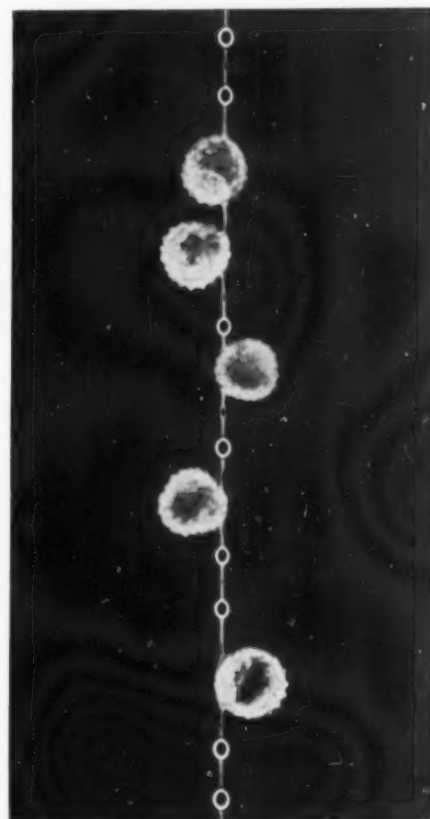
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The virus that causes the disease is entirely different from viruses of other human encephalitis types and from the Western encephalomyelitis of horses.

The symptoms of the disease acquired from horses are also different from other types of human encephalitis. Convulsions are a striking feature of the horse-acquired sickness, and there is occasional spastic paralysis. Sleepiness or stupor, which gives encephalitis its popular name of sleeping sickness, is present, but no more so, Dr. Leake said, than in any very sick person who has fever.

The disease is highly fatal, another difference from St. Louis encephalitis. Nearly two-thirds of the children in the Massachusetts outbreak died.

Science News Letter, October 15, 1938



NOT FAIRY NECKLACE

It is a photomicrograph (at 600 diameters) of a spider-web thread, with five pollen grains of the tall ragweed, that have been caught by the sticky droplets seen elsewhere along the thread as small, black-centered beads. The picture was made by Oren C. Durham, chief botanist of the Abbott Laboratories, North Chicago, Ill., who specializes in hayfever pollen problems. "I wonder what Madam Spider thinks," Mr. Durham comments, "when she hangs out her line for live game and gets a string of pollen." Fortunately for Madam Spider, she doesn't know how to sneeze.

MEDICINE

New Human Disease Found; It Is Horse Brain Disease

AN entirely new human disease, the horse encephalitis or "sleeping sickness" that attacked some 25 children in Massachusetts, has appeared. Its newness was pointed out by Dr. James P. Leake, U. S. Public Health Service, on his return from Boston where he investigated the condition.

Appearance of this horse ailment in humans does not, however, solve the problem of human so-called sleeping sickness such as has been epidemic in St. Louis and other parts of the country.

Discovery that the children got the ailment from horses was announced almost simultaneously by Drs. Leslie T. Webster and F. Howell Wright of the

Rockefeller Institute for Medical Research, and Drs. L. D. Fothergill, J. H. Dingle, S. Farber and M. L. Connerley of Boston, who found the virus of the horse disease in the brains of children who had died of it.

No further cases are expected this year, Dr. Leake pointed out, because the disease has died out in the horses in Massachusetts. It is spread from horse to horse by mosquitoes and probably mosquitoes carry it to children.

The ailment is altogether a disease of babies and children, which is one of its striking differences from other types of encephalitis or "sleeping sickness" that become epidemic.

PHYSIOLOGY

Childbirth Organ Produces Sex-Stimulating Hormone

THE PLACENTA, organ involved in child-bearing, can substitute for the pituitary, master gland of the body, in at least one respect, that of producing a sex-stimulating hormone.

This appears from a report by Drs. George O. Gey, G. Emory Seegar and Louis M. Hellman, of Johns Hopkins Hospital and University, Baltimore, and the Carnegie Embryological Laboratory (*Science* Sept. 30).

Scientists have long suspected the placenta could produce such a sex-stimulating hormone, and now the Baltimore investigators have what appears to be proof for the idea.

Cells from placentas and from a hydatidiform mole, kept alive by tissue culture outside the body, produced a substance similar to the sex-stimulating substance excreted by pregnant women. Original discovery of this substance in kidney excretions of pregnant women led to the belief that, although it acted like the sex-stimulating hormone of the pituitary, it was a separate hormone formed in the placenta and not the pituitary.

Science News Letter, October 15, 1938

GENERAL SCIENCE

World Inquiry into Social Effects of Modern Science

A WORLD inquiry into the part that science plays in modern society is underway and will come to fruition, the international situation willing, probably in 1940. It is the work of the Committee on Science and its Social Relations (C.S.S.R.) instituted by that closest approach to a world super-government for science, the International Council of Scientific Unions, in May, 1937.

Using elaborate questionnaires as a mechanism, a fact-finding campaign is being conducted through the agencies of nationally representative scientific organizations of the various countries. In America, this would be the National Academy of Sciences; in Britain, it would be the Royal Society of London.

There will also be special inquiries along specialized lines, with questionnaires for mathematics, astronomy, mechanics, physics, chemistry, biology, geophysical sciences, geography. Because some fields are not represented by the unions that compose the International Council, the medical and engineering sciences, agriculture, sociology and eco-

nomics are not being included in the first inquiries.

The organization of the international inquiry is in the hands of Prof. J. M. Burgers of Delft, Holland, secretary of the C.S.S.R. In addition to the official questioning and compiling contemplated, there is a place in the plans for assistance from individual scientific investigators. Such points as these, it is felt, might be answered more effectively by individual than by official organizations:

1. The part played by scientific thought in the outlook of various social groups.
2. The forms in which scientific workers and their work are involved in the various struggles and conflicts of human society.

3. The forms in which the consciousness of a social responsibility of science and of scientific workers is taking shape.

These are matters of extreme importance in the large vistas of the world. If they seem less important than fast-marching current affairs, it is largely a matter of perspective. The fear is that the forces of violence will throttle the opportunity of such deliberate assaying of the science that has made civilization.

Science News Letter, October 15, 1938

MEDICINE

Efficiency Ratings For Cancer Treatments

X-RAYS, radium and surgery are to be given efficiency ratings as cancer treatments in a new U. S. Public Health Service research. Responding to "tremendously increased public interest in the cancer problem," the federal inquiry will weigh the efficiency of the different treatments as applied to numerous forms of cancer.

Dr. Thomas Parran, surgeon general of the U. S. Public Health Service, announced the special study coincidentally with ceremonies beginning construction of the \$600,000 Cancer Institute building at Bethesda, Md.

Critical appraisal of cancer control programs is necessary, Dr. Ludvig Hektoen told the National Advisory Cancer Council, of which he is executive director. Cancer therapy is one element in such programs that receives emphasis from the standpoint of public education and expenditures.

A long and useful life for the 9½ grams of radium purchased with \$200,000 of federal funds was predicted. Even after 1,700 years half of this radium will still be effective.

Science News Letter, October 15, 1938

IN SCIENCE

OCEANOGRAPHY

Undertow, Bathers' Dread, Is Shown To Be Real

UNDERTOW, the subsurface current running straight away from the shore that beach bathers dread, has been shown to have real existence in studies by Prof. O. F. Evans, University of Oklahoma geologist (*Science*, Sept. 23). Earlier observations by other scientists had cast some doubts on the reality of the undertow.

Prof. Evans made his studies on freshwater lakes in the Midwest. At first he worked on a very small pond, where the phenomena to be studied were on the scale of inches. He traced the currents by releasing drops of ink under water with a medicine dropper. Later, on the shores of Lake Michigan, he worked on a larger scale, still using colored solution to detect direction and rate of current.

In general, he found that when a wind is blowing directly toward the shore the surface layer of water moves with it, while at varying distances beneath the surface there is a return current, or undertow, that moves against the wind.

Science News Letter, October 15, 1938

PSYCHOLOGY

Unborn Babies Can Learn And Can Forget

A LITTLE unborn infant can learn and can forget, the American Psychological Association learned from the report of Dr. David K. Spelt, of the University of North Carolina.

Learning of the simple type known to psychologists as the conditioned reflex has been established in babies two months before their birth date. Forgetting and un-learning also took place.

The eyes of the X-ray watched the unborn babies during the experiment and tambours recorded the movements of tiny limbs and head.

The experiment was conducted at Watts Hospital, Durham, N. C., with the cooperation of Dr. R. A. Ross, chief of the obstetrical service and Miss Madge Jarvis, nurse.

Science News Letter, October 15, 1938

ICE FIELDS

PUBLIC HEALTH

Feeding World Adequately Is Problem For Geneva

HOW to feed the world more adequately will be discussed by experts at Geneva, Oct. 24. This conference may be made even more important by current European uncertainties.

Part of the League of Nations drive toward better nutrition, this meeting of national nutrition committees is expected to consider at least indirectly the effect of partially empty stomachs upon the world situation.

Miss Sybil Smith, U. S. Department of Agriculture nutritionist, will be the American representative.

Science News Letter, October 15, 1938

PUBLIC HEALTH

Three Requirements for Keeping House Warm

EFFECTIVE and uniform heating, ventilation and economy are three requirements that must be considered in plans for heating the home in winter.

Ventilation usually takes care of itself in winter, according to Charles E. Couchman, industrial hygiene inspector of the Baltimore City Health Department. Heating units are generally so arranged that natural currents of heated air cause a sufficient amount of air motion. The cracks and crevices found even around closed doors and windows normally allow enough fresh air to enter the house. This applies to the daytime. At night, of course, windows must be opened in sleeping rooms.

Any standard heating unit, such as a furnace or stove, will effectively heat a dwelling, Mr. Couchman said, if there is good air circulation. This is particularly true if the dwelling is uniformly heated and drafts are excluded.

The temperature of the house should be kept at or about 72 degrees Fahrenheit. Moist, warm air of this temperature is comfortable, healthful and economical.

On the economy side, Mr. Couchman emphasized the fact that a slow fire is more effective than a more quickly burning one in that it heats a greater quantity of air and allows less heat to go to waste by escaping up the chimney.

Coal gas, produced when you add fuel to your fire, is dangerous as well as unpleasant. The danger is due to the presence in coal gas of deadly, invisible and non-smelling carbon monoxide. Because of this situation, Mr. Couchman advises checking to see that flue pipe and chimney are airtight, so that none of the dangerous gas can enter the house. In order to get rid of this unburned coal gas and poisonous carbon monoxide, always keep the damper of the flue pipe at least partly open. Avoid too much draft, however, or when fuel is added to the fire the heat that results may be enormous enough to set the whole house on fire.

Science News Letter, October 15, 1938

ASTRONOMY

Giant Double Star Reported To Astronomers

ATREMENDOUS double star whose two components periodically eclipse each other was added to man's catalog of the wonders of the heavens by Dr. Sergei Gaposchkin, of the Harvard Observatory, in a report to the American Astronomical Society.

The star, located in the constellation Scorpio, has, of course, been known before, and while astronomers suspected its great size, it had not been proved, nor was it known to be a double star until Dr. Gaposchkin detected this fact through intensive spectrographic studies.

The star is very hot, with a temperature somewhere between 15,000 and 20,000 degrees Centigrade. It has an average brightness magnitude of about 6.5. This varies by about a half a magnitude as the two parts rotate about each other during the star's 12-day period. Dr. Gaposchkin has made no estimate of its size beyond the fact that it is very massive, and is probably among the largest stars of its type yet found.

Investigation, which is still in progress, has centered about the study of more than 150 photographs of the star, going back as far as 1910. The star has also been studied by Mt. Wilson observers, who were among the first to suspect its size and importance.

Dr. Gaposchkin's wife, Dr. Cecelia Payne Gaposchkin, reported to the conference on the progress of an intensive study she has been conducting of bright variable stars. The investigation covering stars as faint as the 10th magnitude, during the past half century, is expected to be very important for statistical purposes.

Science News Letter, October 15, 1938

PUBLIC HEALTH

Tick Paralysis Reported From South Carolina

THE FIRST case of tick paralysis reported in the eastern United States, so far as is known, is described by Dr. J. Heyward Gibbes of Columbia, S. C. (*Journal, American Medical Association*, Sept. 10.)

Tick paralysis is not to be confused with Rocky Mountain spotted fever, although both ailments may end fatally, both follow tick bites and both were first found in a small area in the Northwest. Tick paralysis is an ascending type of paralysis, attacking the lower part of the body first and moving upward. It sometimes results in death from involvement of nervous tissue at the base of the brain. The condition promptly disappears when the feeding tick is found and removed, reports of cases from Washington, Wyoming, Montana and British Columbia have previously shown.

The case Dr. Gibbes reported to the medical journal was that of a Columbia woman who was on the way to complete paralysis and death after she went one day to inspect some prize pigs. Four days later her legs felt weak and would not hold her up. Next she lost the use of her arms. Finally her speech became thick.

In the hospital where she was taken the nurse, while combing her hair, discovered a "tumor on the scalp."

When Dr. Gibbes examined the "tumor," he found it was a well filled wood tick. Off came the tick. Next day the patient "felt better all over." The second day she was well.

Dr. Gibbes calls the attention of physicians to the case because of the importance of recognizing this condition as a possibility in the eastern part of the United States.

Science News Letter, October 15, 1938

PHYSIOLOGY

Insulin Speeds Up Burning Of Alcohol In Body

INSULIN, diabetes remedy, will probably never become a popular sobering-up medicine because of its cost and other practical considerations. It has at least theoretical possibilities along that line, however, since it speeds up the burning of alcohol in the body. Studies showing this effect of insulin on alcohol burning are reported by Drs. Byron B. Clark, R. W. Morrissey and J. F. Fazekas of Albany Medical College (*Science*, Sept. 23).

Science News Letter, October 15, 1938

SOCIOLOGY

City-Dwellers Are Ghosts

Sociologist Sees Life in a Big City as Unreal; Will Lead to Dictatorship, Disaster Unless Checked

By EMILY C. DAVIS

IF YOU live in one of the great cities in this civilization of ours, you have a mere ghost-like existence!

So declares Lewis Mumford, sociologist, in a startling volume on "The Culture of Cities."

Writing in dark-blue pessimism, this modern Jeremiah reports that the world's cities grow steadily bigger—and worse. Life in a big city is far from the enviable adventure it appears to folks on the farmhouse porch or on Main Street. Contrariwise, the greater the city, the less real living a human being can experience in it. The city man's brain bulges with knowledge about things. But pin him down, and his life story is pretty meager.

Says Mr. Mumford: Passive crowds know life by reading, looking, listening. They are bordering on a pathological state.

But cheer up, for the worst is yet to come.

Giant cities are proving as unmanageable as monster Frankenstein. Their ugly traits are running wild. People who put their trust in metropolitan greatness are being dragged down in a whirlpool of graft and privilege-seeking, and racketeering and gangster dictatorships, and fear and moral apathy.

Foresees Ruin

And if nobody stops the vicious downward spiral, Mr. Mumford foresees that New York, London, Chicago, and scores of other great cities may end up bang! in the messy ruined state of Babylon and Tyre.

It sounds unlikely. But then Babylon-on-the-Euphrates probably looked durable, too.

There is one ray of hope. The sociologist says the thing to do is "cast off the dead form of the metropolitan order."

It sounds like a staggering big job. Boiled down to specific suggestions, what he advises is regional planning. Dispersing human ant-hills, with their swarming millions, he would create new centers of industrial and civic life which fit more solidly into the natural surroundings of a given region. The garden city

fits into this scheme of things. But that is only a small part of the planning required. Mr. Mumford believes that we can't patch up our present system. We must give up our worship of skyscraper magnificence. No more giant cities. No more haphazard efforts to farm untamed land just because nobody is using it. Whole countries would be rebuilt to the new pattern of regional development.

Whether this will be done remains unguessable. It is no more vast and overwhelming than the reorganization Soviet Russia has tackled. Mr. Mumford thinks it will come because the great invention called The City has turned out so badly. The big question before the western world, he says, is this: "whether disintegration must be completed before a fresh start is made."

The evolution of the city has been a downward trend, it seems, ever since the Middle Ages. Stoutly defending

medieval cities, Mr. Mumford declares they were more livable than any built since. We hear people talk of typical medieval dirt and overcrowding. But that is just gossip that started in the Renaissance, after the Middle Ages, and is still being repeated.

Our skyscraper cities can trace a direct family line back to those medieval towns. Starting about the tenth century, a huddle of frightened country folk sought their feudal lord's protection, and came to live close to his castle wall.

On market day, in such communities, the fishermen, craft workers, and peasants gathered for trading, and presently they had the idea of enclosing suburbs and castle with a great wall, and putting themselves inside it for permanent safety. Considering what Viking raids and feudal gangsters were in those days, it was a wise thought.

The towns which developed in the next five centuries are praised on the grounds that they were surprisingly adequate. Houses generally had sizable gardens at the rear. There were orchards



GONE

Great Babylon doubtless seemed like an everlasting city to its inhabitants. Where is Babylon now?



IS THIS DOOMED?

The hanging gardens of Babylon-on-the-Hudson. To Mr. Mumford they are only a pain in the eye.

and parks and fields inside the city walls, and people enjoyed more usable open space than city people have seen since, except in modern suburbs.

Sanitation was crude, though not necessarily bad. And so far as the horror stories of plague go, Mr. Mumford is ready to remind you that there is no proof that plague visitations were much worse than in American or European towns of the early nineteenth century. And don't forget the flu deaths of 1918, either!

In medieval towns, he says, you could wake to the singing of birds and the chiming of bells—and people got up in those days, probably, when the music began. Almost everybody sang at work, and there were even work songs for each craft. Buildings were not quaint. That's just our modern idea. They were fresh-painted and colorful. And the people went about their city full of the normal excitement of living. The city was theirs. In Florence, citizens voted on the type of column to adorn their Cathedral.

There is a good deal more to be said for medieval town life. But perhaps you get an idea of why this sociologist thinks those were the good old city days.

It didn't last. Times changed. The pattern of city life altered. And community spirit turned sour.

Skipping along the sad story—it be-

gins to be sad from here on—Mr. Mumford tells us that Renaissance towns were made elegant for the gentleman. But then, and later, as much as one-fourth of the city's people, by estimate, were casuals or beggars. Until nineteenth century humanitarian feeling was aroused, it was taken for granted that a sizable part of a city's people would be destitute. Thousands begged, did odd jobs, picked pockets or otherwise lived by their wits. Such was life in seventeenth and eighteenth century in London, Paris, Vienna, Madrid, Berlin.

The poor who could afford a roof over their heads crowded into tenements. Land speculation had shut them out from the chance of owning a house and a garden. Slum properties were profitable for the wealthy. The city was a two-faced world of grand avenues and fetid slums.

Came the industrial age, and factories with grand new machinery sprang up.

Progress? Far from it. Industrial towns had a standard of housing—the standard was one room to a family.

Says Mr. Mumford scornfully: "A pitch of foulness and filth was reached that the lowest serf's cottage scarcely achieved in medieval Europe."

William Cobbett, the great English reformer of the early nineteenth century, could think of London only in terms of

a repulsive tumor. His preferred name for the city was "The Wen."

Even upper classes came to take overcrowding and dark, dingy quarters for granted. They lived in slums, though they would have been shocked to hear you say so.

As for the beautification of these machine age cities—well, Mr. Mumford has a name for the clutter of Swiss chalets and Italian villas and Moorish palaces that the Victorian era complacently admired. He is not complimentary. He calls the industrial city of the nineteenth century the Old Curiosity Shop.

Megalopolis

And now, coming to our own resplendent era, you can see what Mr. Mumford calls by a Greek coined name, Megalopolis—the Big City. And when he calls a city Megalopolis, he doesn't smile. He means that it is swollen to abnormal giantism—a monster.

Thanks to machine age inventions, Megalopolis is a curious blot on the landscape, according to his way of thinking. Elevators and skyscrapers make it possible to squeeze an incredible number of people onto a pocket-handkerchief scrap of land. Subways and fast trains lure city people out to suburban homes; but as the suburbs grow, the city grows with them, and still more people crowd in.

Subways are traveling prisons, in which people spend vast amounts of time "upon an activity that has flatly no value in itself." Think that over. It's worth pondering.

To get the tremendous water supplies needed, a city like New York has to tap sources a hundred miles away. That's a wartime danger the average person never thinks of. Mr. Mumford warns us:

"Should an enemy disorganize the water supply of the metropolis for as much as three days, the result would be a far more horrible loss of life than the worst conceivable vomit of poison gas from the skies."

And yet, even with Mussolini's cheery forecast that all the big cities may be pulverized in the next war, city dwellers generally imagine themselves reaching for a gas mask, diving for a cellar and being fairly safe.

Right now, without waiting for any war, the city dweller is practically living a ghost life, in a world that he knows only through the powerful medium of white paper.

Believe it or not, the swish and

crackle of paper is more typically the theme song of city life than the whine of machines. There's a name for that, too. This sociologist calls our vast recording and reading enterprise—all the books, card catalogs, newspapers, press agent activities, deeds, contracts, letters, propaganda—a ravaging flood of paper—the White Plague.

The masses, unable to live well rounded lives, fall back too heavily on reading, and the movies, and listening to the radio, and watching professional sports, and otherwise experiencing life at second hand.

The cycle of city evolution, if unchecked, leads on downward. Over-expansion of industry and questionable speculations are followed by depressions. Imperialistic wars, that we hear so much about, result in starvation, disease, and uncertainty that affect widening circles far beyond battlefields.

Dictators

To restore a semblance of order, come forward the dictators such as Mussolini and Hitler, who make martial law and wartime emergency discipline the everyday rule of life for millions.

This stage ends in a deliberate cult of savagery, warns the sociologist. The arts and sciences cease to flourish. Barbarian invasions threaten, within and without. An exodus from the cities begins.

After that, one more picture: war, famine, and disease wracking both city and countryside, and the cities go down in ruin like the ancient fallen ones—Babylon, Nineveh, Armageddon, Antioch, Troy—

That may be averted, as we told, if human beings will shake off their inertia, and do something. Our civilization has drifted along, exploring and experimenting, and feeling happy over its success in taming the wilderness. But now, it begins to be possible to look back and see what's been done. And the picture is less lovely than we supposed.

What with forests recklessly demolished, grasslands washed bare of vegetation, slum-ugly patches in every city, and all the rest of the things that have

gone wrong, the sociologist's suggestion is that we must re-settle our planet.

North America is recognizing this need, he says, returning to forest and grazing land some of the lands that were never good for farming. There are large and small efforts to clean out alleys and build homes. The business of rising above our machine age and creat-

ing a new environment offering a good life to the millions is being seriously studied in countries everywhere.

It is a job that would have baffled Hercules. But the twentieth century may have to swing it.

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Science News Letter, October 15, 1938

FORESTRY

Rebuilding of Ruined Forests Confronts New England

With Half of Trees Down in Southern Part of State, Cooperation of State and Federal Agencies Is Secured

REBUILDING of the hurricane-ruined forests to their former estate as a prime natural resource is an outstanding task now being undertaken by New England as the people turn to the task of reconstructing their battered communities. Representing New England's forestry interests, Ward Shepard, director of the Harvard Forest, has been in consultation with the U. S. Forest Service, the Civilian Conservation Corps, the Works Progress Administration and other government agencies, discussing Federal participation in meeting the present emergency and in setting up a long-time reconstruction program.

At present, about half of southern New England's trees are down. What once were forests and farm woodlots are tangled heaps of splintered trunks and limbs piled like giant match sticks and waiting for sparks to turn a literal inferno loose. The second tropical disturbance, which poured heavy rains on the ruins, was a cause of thanksgiving to the anxious watchers, for it gave insurance against forest fires for a week or two.

In the meantime it is hoped to get the emergency fire-prevention program into operation. First step will be the recruiting of officers and personnel. U. S. Forest Service experts are already on the ground, and companies of the CCC and WPA are being moved up to the front. As far as practicable, emergency worker corps from adjacent states will also be moved into the area of action, and the knots of official red tape will be cut to the limit.

A five-fold scheme of attack has been laid out: (1) Forty-foot strips will be

cleared of down timber along all highways. (2) Roads and fire-lanes will be reopened through the forested areas as fast as axes and saws can be plied. (3) Extra men will be put on fire patrol. (4) Fire lookout towers (they are all down now) will be rebuilt. (5) Down timber will be removed.

The last of these five jobs is of course the biggest and the most difficult to carry out. Yet it must be completed, with saw and axe where possible and with controlled burning where necessary, for the tangled heaps of dead trees are not only an immediate fire hazard but they will in time come to harbor terrific concentrations of insect and fungus pests that will menace trees left standing and the new growths of timber that will soon spring up.

Not only that, but these blown-down masses contain a great deal of cash value if it can be salvaged. The wind took New England's biggest and best trees, which were in many cases the farmers' savings accounts. Government labor will salvage as many of these valuable trunks as possible, and government-backed credit will help the owners to market them gradually instead of dumping them in distress sales.

For the long pull, the U. S. Forest Service has been asked to aid in planning an entirely new set of woods for the devastated regions. All of southern New England's timberlands are privately owned; the only national forests are in northern Vermont, New Hampshire, and Maine. This means that woodlands are predominantly in small parcels, and that the timber is of high importance to the farmer-owners. Credit and tax

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setups must be arranged with these conditions in mind.

One thing was emphasized by Mr. Shepard: In New England's new forests, growing conditions closer to those of nature will be sought than has been the practice in past years. The custom of growing evenly ranked masses of trees, all of the same species and all of the same age, which the world copied from nineteenth-century Germany, will be abandoned in favor of more naturalistic forests of mixed species and all ages.

Such forests, the hurricane showed, can stand against a high wind much more successfully than the uniform, even-aged cultivated timber stands. They are also more resistant to fire and to forest insect and fungus diseases. Finally, they are better homes for game animals and wild birds, and pleasanter places for human recreation.

Science News Letter, October 15, 1938

PSYCHOLOGY

Immature May Seek War Because of the Thrill

CHASING A THRILL is the pursuit of the very young.

Children want to coast down precipitous hills; they want to beat on tin pans, to ride on the merry-go-round and climb on a trapeze, or to be swung by their heels.

A little older, they have the same zest for bright lights and action. They go in for skiing, for speed-boat racing, for fast driving on crowded highways and for quarrelsome parties at night clubs.

Even war has its attraction because it brings excitement and violently disrupts all habits and routine.

Life that is too easy may lead to restlessness. The pacing of the floor by a caged animal or by an idle human is nature's way of trying to keep the organism fit. The undriven organism has a surplus of energy which must find outlet.

How maturity dulls this keen desire

for a thrill is explained by Dr. Edwin R. Guthrie of the University of Washington in a new book "Psychology of Human Conflict" (Harper).

Older people learn to conserve their energy for useful purposes. Excitement is less readily produced and less necessary for producing action.

With repetition, excitement and enthusiasm normally yield to habit.

"Romantic love," said Dr. Guthrie, "in so far as we mean by that a state of excitement and emotional stir, gives place in marriage to calm acceptance and a household routine."

"The husband or wife of several years' standing who exhibits the symp-

toms manifest during courtship—the heightened pulse, agitation, loss of appetite, inability to keep the mind on a task—would be a subject for interference by friends or for consultation with a psychiatrist."

War news can crowd everything else from the front page. Even the long awaited cure for cancer, if found today, would be less exciting.

But those who have known war find in it no thrill; they remember only the horror and suffering. And an old war ceases to be even news. With excitement centered around Prague, people forgot what was happening in Spain or in China.

Science News Letter, October 15, 1938

ENGINEERING

Electrical Power Needs Should Increase 33 Per Cent.

THE NEEDS of the metallurgical and chemical industries for electrical power will increase 33 per cent. in the next five years, it is forecast in a survey published by the Federal Power Commission.

The chemical and metallurgical plants of the nation, and their allied industries, used well over 13,000,000,000 kilowatt-hours of electrical energy in 1936, the last year in which complete figures are available. In the next half decade, states the report, these same industries will probably require nearly 18,000,000,000 kilowatt-hours.

The 33 per cent. gain, the report emphasizes, is based on normal trends. It purposely omits, because of their unpredictability, any attempt to take account of potential wartime needs, major shifts in the business cycle or other extraordinary developments.

The anticipated gain in power of more than 5,000,000,000 kilowatt-hours is about equal to the present needs of such a city as New York.

Greatest gain in power use, in the next five years should be in the production of magnesium, the report indicates. While the average increase for all metal industry is expected to be 33 per cent. an expected power requirement increase of 156 per cent. for magnesium production is foreseen.

Next greatest power increase forecast is for calcium carbide production—a 100 per cent. gain. Other potential increases among industries include: electric furnace iron, 90 per cent; potash, 67 per cent; zinc, 65 per cent.

The increases, it is expected, will pull these industrial uses of electricity up nearer the "big three" of industry's electrical power users, the aluminum industry, copper production and heat treating by electricity.

To a layman electricity means light for his home and, to a smaller number, heat for cooking. But the Federal Power Commission, in its report, shows over 180 different products and processes which require electrical power. They range all the way from manufacture of safety glass and stove polish to rayon and refrigerants, without mentioning at all the many metals whose production depends on electro-chemistry.

Science News Letter, October 8, 1938

Brook trout bury their eggs in beds of clean gravel in autumn, generally in spring-fed headwater streams.

Books

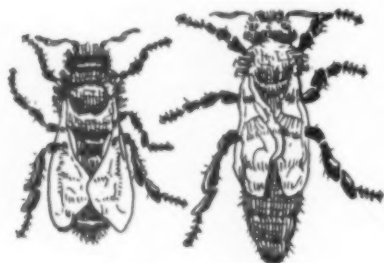
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The Trail of the Bee

HONEY is a mouth-watering word all over the world. Save for Eskimos and Tunguses and a few other remote tribes in forsaken regions so luckless as to be without bees, all human beings know it—and think of only one word in connection with it: "More, please!" And plenty of our sub-human animal kindred, from bears to flies, are no less fond of it than we ourselves.

Honey is commonly classified according to the flowers from which the bees have taken nectar, its raw material. White clover honey has become the staple and standard over practically the whole of the United States, and for most of Europe as well. Along with it, and closely resembling it, are the honeys derived from sweet clover and alfalfa.

But honey gourmets from various sections set up local favorite varieties as superior to the clover product. Usually such preferences are based on a fragrance or flavor of regionally dominant nectar plants, from which the honey derives a distinctive aroma or bouquet, no

less characteristic than the bouquets of wines that enable connoisseurs to exalt the Moselle valley, or the hills of Burgundy, or the islands of the Aegean, according to their several preferences.

No one who has ever tasted the orange-blossom honey of Florida is likely to forget it. Yet from the opposite corner of the country may come a claim that it is not to be compared with the apple-blossom honey of the Pacific Northwest. Californians have their orange-blossom sweet, too, but must divide their allegiance between this and the rich honey from the white sage and ceanothus of their foothills.

In the Ohio valley and the Southeast as well as over a considerable part of

the Middle Atlantic region, three forest trees yield a considerable part of the honey crop: linden or basswood, tulip poplar, and black locust. These honeys all have their devoted followers among the sweet-toothed population.

But those who have, with dripping tongues, followed the Trail of the Bee over the whole American map, sipping from her many combs as she sips from many flowers, would probably cast a majority vote in favor of a honey known in the Southern Appalachians and apparently not elsewhere: sourwood honey. He who has known the nectar of that unpromisingly named tree knows he has tasted perfection. For his tongue there are no more worlds to conquer.

Science News Letter, October 15, 1938

PSYCHIATRY

Fits May Replace Sedatives In Quieting Mental Patients

GIVING an excited patient a fit to quiet him instead of a sedative is the newest thing in treatment of the mentally ill.

Success with the seemingly contradictory treatment is reported by Dr. Louis H. Cohen, of the research service of the Worcester State Hospital (*American Journal of Psychiatry*, September)

The strange new procedure is an outgrowth of insulin and metrazol shock treatment of one widespread mental ail, schizophrenia. Dr. Cohen gives metrazol to induce a fit, or convulsion to use the polite term, in excited patients. These are the patients who are over-active, over-talkative, obscene and destructive. Sedatives, packs, continuous baths and even occasional restraint are necessary

to protect both themselves, other patients, attendants and hospital property.

Small doses of metrazol were injected daily into 42 such patients. Forty of them were schizophrenics and two were chronic maniacs. Some had been in the hospital as long as 22 years.

Marked change for the better took place in nearly all the patients. Sedatives are practically unnecessary. About half the group are now doing productive work and three have returned home ready for outside social adjustment. Another 16 have been transferred to the "quiet" wards. The changes do not seem merely a lessening of activity but a redirection of available energy into more productive and desirable forms.

Science News Letter, October 15, 1938

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PHARMACY

Standards Bureau Issues Disinfectant Standards

FIVE pamphlets which rate several types of household disinfectants and spray-type insecticides have been published by the National Bureau of Standards.

Meant to serve as a description of specifications to be followed by manufacturers on a voluntary basis and for the guidance of consumers, the pamphlets describe liquid hypochlorite, pine oil, coal tar and cresylic disinfectants and the spray-type insecticides.

Science News Letter, October 15, 1938

• First Glances at New Books

Additional Reviews
On Page 256

Geography

IN SEARCH OF SOVIET GOLD—John D. Littlepage and Demaree Bess—*Harcourt, Brace*, 310 p., \$2.75. The story of an American mining engineer, Littlepage, who worked for 10 years for the Soviet Gold Trust and who was in part responsible for its sensational rise in importance as a gold producer. This is one of the few non-political accounts of the Soviet experiment and an extremely interesting book, because of its fresh approach to the Soviet question. The story is told in the first person. The volume was written with the collaboration of Demaree Bess, who was the Moscow correspondent of the Christian Science Monitor for many years.

Science News Letter, October 15, 1938

Economics

LIFE INSURANCE FROM THE BUYER'S POINT OF VIEW—E. C. Harwood and Bion H. Francis—*American Institute for Econ. Research*, 106 p., \$1. A critical analysis of one of the most important of investments, naming companies and telling what policies give the largest money's worth.

Science News Letter, October 15, 1938

General Science

MASTERS OF SCIENCE AND INVENTION—Floyd L. Darrow—*Harcourt, Brace*, 352 p., \$1.49. A new printing, in Harbrace Edition, of a book published in 1923.

Science News Letter, October 15, 1938

Aeronautics

PRACTICAL AIR NAVIGATION AND THE USE OF THE AERONAUTICAL CHARTS OF THE U. S. COAST AND GEODETIC SURVEY—Thoburn C. Lyon—*U. S. Coast and Geodetic Survey*, 185 p., 50 c. Of interest primarily to the pilot.

Science News Letter, October 15, 1938

Archaeology

ARCHAEOLOGICAL WORK IN THE ACKMEN-LOWRY AREA, SOUTHWESTERN COLORADO, 1937—Paul S. Martin—*Field Museum*, 85 p., 66 plates, \$1.75.

Science News Letter, October 15, 1938

Technology

COMMERCIAL MAHOGANIES AND ALLIED TIMBERS—B. J. Rendle—*British Library of Information*, 46 p., 10 plates, 65 c. Any dark red wood of tropical origin is likely to be called by the magic, price-enhancing name of mahogany, to the no small confusion of the woodworking industry and the furniture trade. This small book, with all the weight of au-

thority of the British Forest Products Research behind it, should serve to bring order out of chaos.

Science News Letter, October 15, 1938

Ornithology

BEAUTIFUL BIRDS OF THE SOUTHERN AUDUBON SANCTUARIES—Alexander Sprunt, Jr.—*Natl. Assn. Audubon Societies*, 39 p., illus., \$1. Eleven color plates, and text by one of the most understanding of American ornithologists, give this brochure value far out of proportion to its small size.

Science News Letter, October 15, 1938

Biography

DARWIN—L. B. Pekin—*Stackpole Sons*, 110 p., \$1.25. A condensed biography of Darwin, in which the important facts and trends are well selected. This book is to be recommended to those who cannot afford the time to read the longer, more complete, and fully documented stories of Darwin's life already available.

Science News Letter, October 15, 1938

Anthropology

THE PEYOTE CULT—Weston La Barre—*Yale Univ. Press*, 188 p., \$2.50. The author gathered field data among 15 tribes and in addition compares rituals and beliefs of other Indians who use this powerful little cactus plant in their medicine and religion. Historical aspects of peyote are also given in detail.

Science News Letter, October 15, 1938

Anthropology

KAZAK SOCIAL STRUCTURE—Alfred E. Hudson—*Yale Univ. Press*, 109 p., \$1.50. A study of Turco-Mongoloid people, almost 4,000,000 of whom inhabit steppe country near the Caspian Sea.

Science News Letter, October 15, 1938

General Science

TWENTIETH ANNUAL REPORT OF THE NATIONAL RESEARCH COUNCIL (CANADA)—*National Research Council of Canada*, 182 p., 75 c. See S. N. L., Aug. 13, p. 104.

Science News Letter, October 15, 1938

Economics

WORLD PRODUCTION AND PRICES 1937-8—Economic Intelligence Service, League of Nations—*Columbia Univ. Press*, 137 p., \$1.25. The League of Nations' regular review of economic conditions, covering production and price indices, industrial profits, costs, farm income, shipping and other germane indicators.

Science News Letter, October 15, 1938

Physiology

BEAUTY PLUS—Mary MacFadyen—*Emerson Books*, 272 p., \$1.96. This book by a woman physician will undoubtedly prove popular with feminine readers. The author shows much sympathy with feminine desire for pulchritude. The book is largely addressed to young girls and women, and gives much safe and helpful advice. There are formulas for having one's own creams and lotions made, advice on drinking, hang-overs, hair dyes; diet lists, and exercises.

Science News Letter, October 15, 1938

Medicine

NURSING: AN ART AND A SCIENCE—Margaret A. Tracy and others—*Mosby*, 559 p., illus., \$3.25. The experience of a group of nursing instructors has gone into the making of this comprehensive textbook. The author takes the view that nursing is undoubtedly an art but that it is also fast becoming a science.

Science News Letter, October 15, 1938

Climatology

DROUGHT OF 1936, WITH DISCUSSION ON THE SIGNIFICANCE OF DROUGHT IN RELATION TO CLIMATE—John C. Hoyt—*Govt. Print. Off.*, 62 p., 15 c.

Science News Letter, October 15, 1938

Engineering

STREET CLEANING PRACTICE—*American Public Works Assn.*, 407 p., illus., \$4. One of the first authoritative treatises in this field. Prepared by the American Public Works Association's Street Cleaning Committee.

Science News Letter, October 15, 1938

Entomology

THE HORSEFLIES OF THE SUBFAMILY TABANINAE OF THE NEARCTIC REGION—Alan Stone—*Govt. Print. Off.*, 172 p., 20 c.

Science News Letter, October 15, 1938

RADIO INTERFERENCE AND ITS SUPPRESSION

By J. H. REYNER

6 x 9 130 pages 55 illustrations
Published at \$4.00—SALE PRICE, \$2.75

A very useful book for engineers, manufacturers, amateurs, and all interested in radio. Recommended methods for preventing or curing interference are presented.

THE SHERWOOD PRESS
Box 552, Edgewater Branch
Cleveland, Ohio

•First Glances at New Books

Additional Reviews
On Page 255

Oceanography

CHILD OF THE DEEP—Frances Jenkins Olcott and John E. Williamson—*Houghton Mifflin*, 116 p., illus., \$2.25. A noted photographer of life in the shallow seas, who works in a windowed chamber trailed on the bottom at the end of a long tube, lets us look at the wonders of his watery world through the eyes of eight-year-old "Captain Sylvia." Other little girls (and little boys, too) will undoubtedly listen with eyes and ears popped wide open if this book is read to them.

Science News Letter, October 15, 1938

Entomology

INSECT ALLIES—Eleanor King and Wellmer Pessels—*Harper*, 45 p., plates, \$1.25. Many children, ill-instructed by their elders, see in a "bug" only something to be stepped on if possible. This little book, with its vivid illustrations and entertaining text, tells stories of some of the insects that fight on our side and therefore deserve to be not only spared but encouraged.

Science News Letter, October 15, 1938

Natural History—Juvenile

SOUTHERN NATURE STORIES. BOOK ONE—W. B. Baker, Lucien Harris, Jr., and Wallace Rogers—*Turner E. Smith*, 230 p., illus., 88 c. Little stories in big print for young eyes, with lots of full-page illustrations made from good photographs, combine to make this a most attractive school reader especially for a region that has long been waiting for books really well adapted to its peculiar conditions.

Science News Letter, October 15, 1938

General Science

THE MAGIC WAND OF SCIENCE—Eugene W. Nelson—*Dutton* 213 p., illus., \$2. Designed for young people.

Science News Letter, October 15, 1938

Sociology

THE TENNESSEE VALLEY AUTHORITY: A NATURAL EXPERIMENT IN REGIONALISM—Clarence Lewis Hodge—*American Univ. Press*, 272 p., \$3. A detailed discussion of one of the biggest social facts in contemporary American life, the establishment of the TVA. The volume covers the emergence of the regional problem here and abroad, an analysis of the TVA act itself, a picture of the region affected, a description of the Authority and the way in which it operates, cooperation among different gov-

ernment organizations concerned and with the public, and concludes with an evaluation of the TVA.

Science News Letter, October 15, 1938

Sociology

THE OHIO-MISSISSIPPI VALLEY FLOOD DISASTER OF 1937; Report of Relief Operations of the American Red Cross, 252 p., illus., free upon direct request from *American Red Cross, Washington, D. C.* A good deal of care has gone into the writing and preparation of this report with the result that it is more than usually readable and understandable. There are numerous striking pictures, charts and maps. Heads of local relief agencies and civic groups may find useful suggestions for handling similar disasters that might strike their communities.

Science News Letter, October 15, 1938

General Science

THE BOOK OF TIME—Gerald Lynton Kaufman—*Julian Messner*, 287 p., \$3. All about time, as it is used by the railroads and as Michelson, Jeans, Eddington, Einstein, Carrel, Dunne, Millikan and Shapley view it.

Science News Letter, October 15, 1938

Psychology

THE PSYCHOLOGY OF HUMAN CONFLICT—Edwin R. Guthrie—*Harper*, 408 p., \$2.75. See page 253.

Science News Letter, October 15, 1938

Technology

REPORT OF THE FOREST PRODUCTS RESEARCH BOARD (Gt. Brit.) FOR THE YEAR 1937—Gt. Brit. Dept. of Scientific and Industrial Research—*British Library of Information*, 87 p., 65 c.

Science News Letter, October 15, 1938

Electrical Engineering

POWER REQUIREMENTS IN ELECTRO-CHEMICAL, ELECTROMETALLURGICAL AND ALLIED INDUSTRIES—Federal Power Commission—*Govt. Print. Off.*, 125 p., illus., maps, \$1.

Science News Letter, October 15, 1938

Botany

A COLLEGE TEXTBOOK OF PHARMACEUTICAL BOTANY (6th ed., rev.)—Heber W. Youngken—*Blakiston's*, 793 p., illus., \$4.75. Basic principles of botany, like those of any standard college course, plus particular application to the profession that historically was the foundation of botany.

Science News Letter, October 15, 1938

Geography

RAND McNALLY STANDARD ATLAS OF THE WORLD—*Rand McNally & Co.*, 382 p., \$3. In addition to four-color maps of each state, foreign country and continent, this volume contains relief maps of all continents, highway and railway mileage maps, economic maps of the United States and historical maps of Europe. Textual information is also given.

Science News Letter, October 15, 1938

General Science

THE LEAGUE FROM YEAR TO YEAR (1937)—Information Section, League of Nations—*Columbia Univ. Press*, 246 p., 25 c. A record of accomplishment, with the activities in the fields of nutrition, health, intellectual cooperation, and social questions holding particular interest to those scientifically inclined.

Science News Letter, October 15, 1938

Current History

OUR COUNTRY, OUR PEOPLE, AND THEIRS—M. E. Tracy—*Macmillan*, 120 p., \$1.75. The editor of "Current History" contrasts in text and diagrams the living conditions in Italy, Germany and Russia with those in the U. S. A., which provide argument for the maintenance of human rights under democracies.

Science News Letter, October 15, 1938

Technology

MODELS ANY BOY CAN BUILD—Joseph Leeming—*Appleton-Century*, 205 p., \$2. This book describes simple models of transportation equipment including airplanes, boats, stage coaches and prairie schooners, locomotives and bridges, showing early models as well as later ones. The emphasis is on models that are simple to build.

Science News Letter, October 15, 1938

Psychiatry

BIBLIOGRAPHY OF THE HENRY PHIPPS PSYCHIATRIC CLINIC, 1913-1937—*Johns Hopkins Press*, 58 p., \$1.

Science News Letter, October 15, 1938

Medicine

A TEXTBOOK OF HISTOLOGY (2d ed., rev.)—E. V. Cowdry—*Lea & Febiger*, 600 p., \$7.

Science News Letter, October 15, 1938

Bibliography

1937 BIBLIOGRAPHY OF RUBBER LITERATURE (EXCLUDING PATENTS)—Donald E. Cable, comp.—*The Rubber Age*, 128 p., \$1. paper, \$2. cloth.

Science News Letter, October 15, 1938